

HEALTH-SEEKING  
IN TENERIFE AND MADEIRA.

THE Canary Islands have long been famous in travellers' tales for the balminess of their air and the beauty of their scenery, but until a very few years ago the majority of Englishmen looked upon them much as the Romans of Virgil's day regarded the *penitus toto divisos orbe Britannos*. Only a few adventurous spirits had carried their search for sunshine so far out of the beaten track ; to the average invalid Tenerife was as much outside the sphere of practical health-seeking as Timbuctoo. Nor can this be wondered at, when the difficulties of access and the total absence of suitable accommodation are borne in mind ; moreover the virtues of the climate were practically little known even to physicians, and few people care to make themselves the subject of experiment in such a matter. Now that the Canaries are being extensively advertised as a land flowing with the elixir of life, where disease drops from the sufferer almost as soon as his feet touch its sacred soil, the pendulum, as usually happens, seems likely to swing too far the other way. Exaggerated expectation will too surely breed disappointment, and the rising tide of popularity may, in its inevitable ebb, leave the new health resort in lower water than it was before. This would be a pity, for the natural advantages of the islands are certainly very great, and, indeed, in some cases of disease altogether unrivalled. My object in this paper is to give the results of my personal observations of Tenerife during a short visit made in the spring of the present year. I may claim to be an impartial witness, for I went there with no other object in view than to seek for rest and change of scene, and my ideas of the climate and hygienic possibilities of the island were so vague that my mind was free from bias of any kind on the subject. As very few European physicians have visited the Canaries, the impressions which I formed there may have some interest for invalids and lovers of sunlight generally, who are on the outlook for some new haven of refuge for the winter.

Tenerife is the largest of the group of 'seven sisters' which form the Canary Islands ; it measures about sixty miles in length by thirty in breadth at the widest part. To most people it is probably known

chiefly, if not solely, for the famous 'Peak' which rises more than twelve thousand feet from the sea level, and is visible from fifty to a hundred miles around. The island was not so very long ago of some commercial importance, and did a large trade in Canary wine and in cochineal. The oidium ruined the one and the introduction of aniline dyes the other, and the Tencrifeans are now fain to fall back on their climate as a staple product, embodying 'the potentiality of growing rich beyond the dreams of avarice.' In former days Tenerife supplied European apothecaries with Guanche mummies and 'Dragon's blood' (the juice of the dragon tree, *Draccæna Draco*), which served as ingredients of mystic potency in their horrible concoctions; people are now awaking to the fact that in its air the island possesses a natural medicine which has more than all the supposed virtues of these charms.

Santa Cruz, the capital of Tenerife, is easily reached from Plymouth in five days. The town is beautifully situated, with a background of conical mountains and flanked by steep red cliffs which reminded me of some of the Norwegian fjords. As most visitors use Santa Cruz simply as a landing-place, and at once hurry on to Orotava, its value as a health resort is scarcely so much appreciated as it deserves to be. It is warmer and therefore more relaxing than Orotava, where the trade wind from the north-east makes itself more or less felt every day, but for that very reason it suits some patients better. Dr. Douglas, a former patient of mine, has established a sanatorium at Salamanca, about a mile from Santa Cruz. He has a fine house and a charming flower garden, in which his patients looked very comfortable as they sat in the shade. One gentleman who had tried Orotava without much success had found the air of Santa Cruz very beneficial. I was informed that Mr. Camachio, the proprietor of the principal hotel at Santa Cruz, intends to build another at Salamanca which will be expressly fitted up for the reception of invalids, for whom there is at present no proper accommodation in the capital itself. From Santa Cruz I proceeded to Orotava, on the north side of the island. The distance is only twenty-five miles, but it takes six hours to cover it, as the ascent for the first five miles is very steep. On the crest of this slope at a height of 2,000 feet above the sea is Laguna, the ancient capital of Tenerife. It is situated on a plateau surrounded by hills, and has the advantage—almost unique in the island of Tenerife—of having comparatively level ground around it for some distance. Within easy reach of it are the charming forests of Agua Garcia and Mercedes and the Anaga hills. The town itself, though interesting to a stranger for its historical associations and the quaint architecture of its buildings, is one of the dreariest places in the world. It has such a deserted appearance that one might almost take it for a city of the dead; it reminds one of Defoe's description of London after the

Great Plague. Its climate, however, in the summer and autumn is deliciously cool, and hence it is the favourite residence during the hot weather not only of the well-to-do inhabitants of Santa Cruz, but of many people from Orotava. In winter, however, it is often cold and wet, so that, as Mrs. Stone says in her excellent work,<sup>1</sup> 'If any one should be tired of the perpetual sunshine of Orotava, and long for rains and murky skies such as England possesses, he can obtain a semblance of them by going to Laguna in the winter months.' The severity of this remark, however, may have been partly due to the particularly bad weather which the lady experienced on the occasion of her winter visit.

From Laguna to Orotava the road winds down a gentle declivity for twenty miles. The valley of Orotava, though it has been greatly praised, did not strike me as particularly beautiful. Humboldt described it as the loveliest valley in the world. Perhaps, as Mr. Edwards<sup>2</sup> has suggested, the very extravagance of the praise that has been lavished on it prepares the mind for something so transcendently beautiful that no mere earthly landscape could come up to the expectations that have been excited. It must be remembered also that Humboldt was a young man and was just starting on his travels when he saw Orotava, and he described his impressions long afterwards, when probably distance of time and indistinctness of memory lent enchantment to the view. Even the most ardent champion of the Fortunate Islands must allow that the country lacks the greenness of Madeira, and the 'finish' of the Riviera, and has a general appearance of not being well kept. As in most volcanic districts in the South, the fig, the cactus, and the vine flourish, but the latter is not now extensively cultivated in the valley of Orotava. The aloe is largely used for making hedges, but it does not seem to blossom nearly so freely as in the south of France and in Italy. The cliffs and lower hills are covered with a small shrubby euphorbia, whilst higher up the magnificent *Euphorbia canariensis* with its candelabra-like branches, often attaining a height of twenty feet, is very abundant. The valley itself has something of the form of an amphitheatre sloping down to the sea. There are two towns of Orotava, the Puerto or port, and La Villa or old town. The former is only fifty feet above the sea-level, while La Villa is nearly a thousand feet higher, though only two miles and a half from Puerto. Dotted about the valley of Orotava there are some twenty or thirty villas at various elevations between Puerto and La Villa; these are let to foreigners, mostly Englishmen. Both Puerto and La Villa are depressing places at first; the streets are grass-grown and deserted like those of Laguna, and one would be glad to have even one small wave of that 'full tide of human existence' which delighted Johnson in Fleet Street. This desolate appearance

<sup>1</sup> *Tenerife and its six Satellites.*

<sup>2</sup> *Rides and Studies in the Canary Islands*, p. 25.



of Tenerifean streets is chiefly due to the almost total absence of vehicular traffic; one soon becomes accustomed to the quiet of the towns, however, and even ceases after a time to notice it. For many invalids, too, the very stillness has a soothing effect, which no doubt plays some part in the general beneficial effect of the change.

Orotava is almost the only place in Tenerife where there is any hotel accommodation for invalids, and even there it is still far from adequate. The place has suffered indirectly from the exuberant enthusiasm of Mr. Ernest Hart, to whose opinion, after his visit in the spring of 1887, great weight was rightly attached. He described the climate, the scenery, the products vegetable and human, and the arrangements for the reception of invalids, with such tropical luxuriance of epithet, that the island was invaded the following winter by crowds of sufferers, real and imaginary, with their friends and attendants. The result was that the hotel accommodation proved utterly insufficient, the arrangements were unsatisfactory, and considerable discomfort was caused. Last winter, accordingly, there was a marked falling off in the number of invalids who visited Tenerife. Very few of those who had experienced the miseries of life in an overcrowded hotel went back the following winter. On the other hand, those who had been fortunate enough to get villas for themselves almost without exception returned, or remained through the summer on the island. It was the want of proper accommodation, therefore, and not dissatisfaction with the climate, which caused the diminution in the number of visitors. That there was disappointment with the climate in some cases, however, is undeniable, and this is only what was to be expected. The exaggerated reports of the health-giving properties of Tenerife led people to expect miracles; when the inevitable disenchantment followed, the blame of the failure was, of course, laid on the climate. On this subject I shall have something to say further on. A third cause for the diminished influx of visitors to Orotava last winter was a false report that was circulated as to the presence of yellow fever at Santa Cruz. This was naturally taken by most people to mean the capital of Tenerife; there had not, however, been any cases of yellow fever there, but one or two had been imported into Santa Cruz in the Island of Palma.

The Tenerifeans have not failed to profit by the lesson of last winter. The science of hotel management has been carefully studied, and nothing could be more satisfactory than the arrangements now made at Orotava for the comfort of guests. On this point the testimony of the English people whom I met was practically unanimous, and from my own experience I can conscientiously add my voice to the rest.

The 'Grand Hotel and Sanatorium' of Orotava is situated at Puerto, some fifty feet above the level of the sea. It was originally

a private house built in the Cuban style by a gentleman who made his fortune in Cuba some years ago. It was opened as a hotel on the 1st of September 1886, but before that date Mrs. Stone had pointed out the advantages of its situation, which gives ample opportunity for gentle exercise in its vicinity. Part of the house is retained by the widow of the former owner, Doña Antonia Dehesa, for her own use, leaving only about twenty bedrooms for visitors. In addition to the main building there is a kind of annexe in the garden of the hotel; this is called the Pavilion, and contains three bedrooms and a sitting room. From the back of the house project two long wings, open on one side, and connected together at the farther end by a broad verandah on both sides. This verandah separates the *patio* from the garden. The former is gay with rose-trees, New Zealand flax, and subtropical plants; there is also a magnificent Bougainvillea whose purple flowers cover the billiard room and spread over one side of the house, whilst on the open verandah there is a splendid creeping Bignonia covered with rich yellowish-brown clusters of flowers. In the garden on the north side of the verandah, the hybiscus, together with the orange, citron, pomegranate, and a number of splendid date palms flourish with the richest luxuriance. The verandah is shaded at one end by some glorious specimens of the *Laurus Indiae* or royal bay, which here attains the size of a well-grown forest tree. The other side of the verandah opens on to a large basin of artificial water, in which some fine swans with numbers of gold fish live very happily together. It was with a certain sense of 'disillusion,' however, that I learned that the swans had been supplied to order by the 'Universal Provider.' There is of course a crumpled leaf in this bed of roses. Señora Dehesa has a passion for domestic pets, and Mrs. Stone describes the house and verandah, when she saw the place, as full of birds of all kinds, while the *patio* was a miniature 'wilderness of monkeys.' These have disappeared, or at any rate I did not see them; but there is still a multitude of bantam cocks and hens together with a large variety of pigeons about the place, which their humane mistress tends with the most loving care before the visitors are about. It is graceful and idyllic, no doubt, but as a matter of prosaic detail the crowing of the cocks is a serious nuisance to invalids and light sleepers. I heard several complaints of broken rest due to this preventible cause. Moreover, the presence of large numbers of poultry so close to the hotel no doubt increases the plague of fleas which swarm everywhere in the Canaries, and seem to have a special predilection for visitors in whom, I suppose, they find 'pastures new,' more to their taste than their native pabulum.

Another slight drawback, so far as invalids are concerned, is that the verandah is open to the north-east trade wind which, as already said, blows constantly in this region. This wind is not really cold like those sometimes felt in the Riviera, and to people in robust health

it is delightfully refreshing. For delicate persons, however, it is a little too strong, and while I was at Orotava I came across one or two invalids who had caught cold owing to this cause, and I have no doubt many others suffer, though perhaps unconsciously, from its effects. This inconvenience might easily be remedied by partly closing the north side of the verandah with glass, an arrangement which would give invalids the advantage of the sun without exposure to the wind.

The Grand Hotel also includes three other establishments which, though separate in themselves, are in organic relation with the central one just described. These (Fonda Marqués, Casa Zamora, and Casa Buenavista) between them can accommodate a hundred guests, so that the total number which can be housed by the Sanatorium is about a hundred and twenty. A new hotel which is being built at Orotava by the same company is now rapidly approaching completion. It will contain accommodation for nearly two hundred visitors, and great efforts are being made to make it comfortable for invalids. It is situated at a level of three hundred feet above the sea, and among other advantages there will be a beautiful verandah absolutely sheltered from the north-east wind, but exposed to the warm rays of the sun. Although this establishment will have advantages of its own, it is to be hoped that the present one will not be given up, for it is certainly rather warmer than the new building will be. Another hotel under different management is, I understand, about to be built at Orotava; it will be most healthily situated at La Paz, on a pleasant site at about the same elevation above the sea as the one just mentioned, but rather farther from the town. It will accommodate about one hundred and fifty visitors. This establishment will not, however, be available till the winter of 1890. Next autumn a boarding-house will also be opened under the management of a Swiss who has lived in England for many years. The several private villas already described can be taken for longer or shorter periods at fair rates. It is clear from all this that the Tenerifeans are determined that the future of their island as a health resort and playground shall not be compromised by the want of accommodation for visitors.

I found Orotava so comfortable that I stayed there most of the time I was at Tenerife, and did not explore the island to any great extent. In my rambles, however, I paid a visit to a place called Icod de los Vinos, which was once the centre of a flourishing wine trade, but which has now fallen on evil days, commercially speaking. It is about twenty miles to the west of Puerto and stands at a height of some seven hundred feet above the sea. It is beautifully situated on the northern slope of the Peak, but though it has been called one of the 'pearls' of Tenerife, its attractions seemed to me to be sufficiently summed up in the words of Justice Shallow, 'Marry, good air.' I had intended to visit the Grand Canary, but, as I have said, I found my Capua at Orotava, so far as the wandering instinct was



concerned. I met a number of travellers, however, who had come on to Orotava from Las Palmas, the capital of Gran Canaria. The accommodation there is scanty and very inferior to that at Orotava. No hotels have at present been built on high ground, the new hotel which is in process of construction being situated like its predecessor, the oldest in the Canary Islands, on the sandy shore which stretches along the coast. As a consequence of this there is a great deal of dust, which is very trying to invalids. The interior of the island has not been developed nearly so much as Tenerife, and as far as I am aware there are no comfortable villas in the higher parts of the island, so that the invalid is practically confined to the sea-level. The climate of the Grand Canary is, however, rather drier than that of Tenerife, and I have therefore no doubt that it suits some persons better.

The natives of Tenerife struck me as particularly fine specimens of the human race. The men are strong, well-grown, and healthy-looking, and many of the women are very beautiful; but those of the lower class, owing to their being so much occupied in field labour, become old and worn in appearance at a comparatively early age; while the ladies, from want of exercise, soon lose their slimness of figure. Dark eyes and complexions prevail, but a trace of the extinct Guanches is often seen in light-coloured eyes and ruddy hair. The peasantry wear a light cotton jacket and short trousers, but each man has a thick Witney blanket, which is worn as a cloak when the weather is wet or cold. Everybody smokes—urchins of five or six seeming to find as much relish in their cigarettes as their fathers. The outdoor life which is led in these privileged regions makes this apparently excessive indulgence in tobacco harmless. Tobacco is grown in Tenerife, and still more extensively in the Grand Canary, and this might easily be developed into an important industry; but it is not encouraged by the Spanish Government, lest the importation of a cheap tobacco from the Canaries should injure the monopoly in the peninsula. Potatoes grow in such abundance that their exportation to England would be a profitable industry. New potatoes could be sent to Covent Garden in time for Christmas. The soil is so fertile that three crops can be raised in the year without manure. Vines could also no doubt be again cultivated on a large scale, but the wine of the Canaries—whatever may have been its reputation in past days—is now neither agreeable to the palate nor comforting to the stomach. I was informed by a native that the two great advantages of Tenerife are its freedom from marshes and from poisonous snakes. Whilst fully admitting the importance of these negative features, the island has other and better titles to fame as a health-resort—as I shall now proceed to show.

With regard to the climate of Tenerife as a whole, there are three great points which can hardly fail to strike every one who stays in the island for any length of time. These are: (1) the relative

*uniformity of temperature*, not only throughout the different parts of the day, but through the various seasons of the year; (2) the *dryness* of the air; and (3) the *variety* of climates within a comparatively small area.

In point of mildness Tenerife compares favourably not only with all European health resorts but with Madeira, the mean annual temperature being between  $66^{\circ}$  and  $67^{\circ}$  F. in the former and  $63^{\circ}$  F. in the latter. At Puerto de Orotava, which faces the sea to the north at an elevation of fifty feet, and which is protected by mountains on the other sides, the mean annual temperature is about  $68^{\circ}$ ; it ranges from  $62^{\circ}$  in January and February to  $76^{\circ}$  in July, the extreme difference between winter and summer being therefore not more than fourteen degrees. At Nice the corresponding difference is nearly thirty degrees, whilst even at Algiers it is between twenty-three and twenty-four. The mean temperature during the five months of November, December, January, February and March is between  $63^{\circ}$  and  $64^{\circ}$ , the mean range between maximum and minimum being about eleven degrees. This degree of variation is maintained with remarkable steadiness throughout the year, the average temperature in spring being  $64^{\circ}$ , in summer nearly  $71^{\circ}$ , in autumn between  $69^{\circ}$  and  $70^{\circ}$ , and in winter a little over  $60^{\circ}$ . The average range of temperature throughout the year therefore does not exceed from ten to eleven degrees. From some careful records of meteorological changes at Puerto de Orotava, for which I am indebted to Dr. Perez, it appears that in January of the present year the mean temperature at 9 A.M. was  $61.2$ , at 2 P.M.  $62.7$ , and at 9 P.M.  $57.9$ ; in February the corresponding means were  $60.1$ ,  $62.5$ , and  $53.5$ ; in March  $64.3$ ,  $66$ , and  $59.7$ ; and in April, from the 1st to the 25th inclusive,  $64.5$ ,  $68.2$ , and  $56.5$ . Careful observations made by Mr. Borham, which that gentleman has with great courtesy placed at my disposal, show that at his villa San Antonio, above Port Orotava, and 346 feet above the sea-level, the mean temperature in November (1888) was at 9 A.M.  $66.3$ , and at 9 P.M.  $63.1$ ; in December the corresponding figures were  $60.8$  and  $59.2$ ; in January (1889)  $58.9$  and  $56.4$ ; in February  $60.6$  and  $56.6$ , and in March  $61.8$  and  $59.4$ , giving a mean variation between the morning and the evening of  $2.8$ . In November the absolute lowest temperature in the shade was  $54.9$ , in December  $51.8$ , in January  $51$ , in February  $50$ , and in March  $49.1$ ; but the mean minimum was for November  $59.3$ , for December  $55.4$ , for January  $53$ , for February  $52.7$ , and for March  $54.1$ . The climate is always better before Christmas than it is afterwards, November and December being perfect. In the early months of the year the weather usually becomes a little unsettled. As a proof of the mildness of the season last December, I may mention that the visitors were able to sit with perfect comfort in the verandah of the Grand Hotel, which, as already remarked, is open on both sides, after a late



dinner on Christmas Day. At Villa de Orotava the mean annual temperature is between  $66^{\circ}$  and  $67^{\circ}$ , at Santa Cruz between  $70^{\circ}$  and  $71^{\circ}$ , and at Laguna about  $62^{\circ}$ . The wonderful equability of the temperature is largely due to the fact that on most days, just as the sun's rays threaten to make themselves oppressively felt, the trade wind furnishes a refreshing breeze from the north-east to temper their heat. This wind blows every day, but rarely with violence except sometimes in March. In summer and part of the autumn it is scarcely strong enough to shake the withered leaves from the trees. The canopy of cloud that hangs about the hills during the greater part of the day also affords protection. The barometric pressure is also extraordinarily uniform, and violent atmospheric disturbances are almost unknown. Dr. Grabham of Madeira, however, informs me that he found the land breeze blowing at the rate of four miles an hour at Orotava in February 1887, showing great terrestrial radiation and rapid cooling. It is important to note that there is hardly any difference in the temperature between the open air and the inside of the house.

No fires or other means of generating artificial warmth are used by the natives, but there are occasionally days on which English people would enjoy a small fire—especially in the evening. It need scarcely be pointed out that delicate persons feel chilly at a temperature which is pleasant and invigorating to the healthy, the slight difference between the sunshine of day and the shade of evening being disagreeably felt by invalids. Both the new hotels will be provided with fireplaces in the public rooms and in many of the sitting rooms.

The dryness of the atmosphere is not less remarkable than the mildness and equability of the temperature. The mean relative humidity of the air at Port Orotava from November to April was ascertained by Dr. Hjalmar Öhrvall, of Upsala, to be 65.3 at 8 A.M., 60.1 at 2 P.M., and 69.1 at 9 P.M., giving a mean of 64.9 (saturation being expressed as 100). The average rainfall is about 13 inches, and the average number of rainy days in the year, taking the mean of ten years, is only 51. During the winter of 1883-4, a season of extraordinary and almost unparalleled wetness at Tenerife, there were seventy-eight rainy days, but the average number in ordinary winters is only 41. In January of the present year rain (counting every drizzle) fell on fourteen days, the rainfall for the whole month being 2.39 inches; in February it rained on ten days, the amount for the month being 1.57 inch; in March the corresponding numbers were eight days and 1.15 inch; and from April 1 to 25, rain fell on nine days, the amount being .55 inch.<sup>3</sup> The air is, as a rule, so dry that a piece of paper can be exposed all night without losing its crispness.

The chief advantage, however, of Tenerife as a health resort is

<sup>3</sup> Mr. Borham's tables which have already been referred to are here appended. The figures, which, it is needless to say, are absolutely trustworthy, give, as it were, a summary of the climate of Tenerife during the past winter, which was considered

the facility for frequent change of air and scene which it offers within a very small area. In this I think Tenerife stands alone among the Canaries, and is not equalled by Madeira. Custom cannot stale the infinite variety of climate which this *multum in rapvo* of an island contains within the narrow circle of its own shores. If the Valley of Orotava is too relaxing, there is Laguna only a few hours' drive away, which is as bracing as Eastbourne, without its east winds; if Puerto is not warm enough, there is Santa Cruz with the air of a hothouse tempered by sea breezes. One may say the various climates rise tier on tier as you go upwards from the sea; with each thousand feet of elevation we pass into a different climatological stratum, the air of course becoming colder and more bracing as we go up. These different zones are pretty clearly marked out by the varying type of vegetation. Near the sea, palms, bananas, oleanders, &c. flourish with subtropical luxuriance; from one to two thousand feet above this, gorse and broom, chestnut and apple trees predominate; then comes the region of laurels; then the heaths with the Canarian pines; lastly, a barren waste of rock covered with lava and pumice.

Orotava itself may almost be said to have two different climates, that of La Villa and its neighbourhood being more bracing than that of Puerto. It is a very dull place. La Villa is even duller than Puerto, and at present there is no English hotel in the old town, but, as already exceptionally cold. Indeed, a lady who had lived in the island for twenty-three years told me she had never experienced such a winter.

SAN ANTONIO, PORT OROTAVA; 346 feet above mean sea level.

	November 1888	December 1888	January 1889	February 1889	March 1889
<i>Means</i>					
Barometer corrected	{ 9 A.M. 30.206 9 P.M. 30.195	{ 30.190 30.198	{ 30.275 30.256	{ 30.241 30.248	{ 30.175 30.199
Dry bulb . . .	{ 9 A.M. 60.3 9 P.M. 63.1	{ 60.8 59.2	{ 58.9 56.4	{ 60.6 56.6	{ 61.8 59.4
Wet bulb . . .	{ 9 A.M. 61.3 9 P.M. 59.8	{ 58.4 57.1	{ 54.8 53.6	{ 55.3 53.7	{ 57.3 56.0
Dew point . . .	{ 9 A.M. 57.1 9 P.M. 57.0	{ 56.4 55.4	{ 51.2 50.3	{ 50.8 50.9	{ 53.5 53.2
Vapour tension . . .	{ 9 A.M. .480 9 P.M. .469	{ .459 .440	{ .379 .369	{ .373 .376	{ .412 .410
Cloud . . . . .	{ 9 A.M. 4.8 9 P.M. 4.5	{ 5.1 5.9	{ 5.0 5.5	{ 5.0 5.0	{ 5.4 6.0
Relative humidity, mean of . . . . .	{ 9 A.M. } { 3 P.M. } { 9 P.M. }	{ 75 } { 84 }	{ 76 }	{ 74 }	{ 77 }
Rain . . . . .	{ Total .513 Average .064	{ 3.994 .234	{ 2.203 .157	{ 1.430 .143	{ 1.174 .147
Maximum in shade . . .	69.8	65.6	62.7	64.2	64.5
Minimum " . . . . .	59.3	55.4	53.0	52.7	54.1
Maximum on grass . . .	138.5	130.5	135.6	138.7	—
Minimum " . . . . .	55.5	52.7	50.1	47.3	47.6
Sunshine . . . . .	3h. 48m.	3h. 13m.	3h. 27m.	5h. 16m.	4h. 48m.
<i>Extremes</i>					
Barometer . . . . .	{ Highest 30.396 Lowest 30.091	{ 30.474 29.726	{ 30.579 29.972	{ 30.556 29.554	{ 30.368 29.879
Shade temp. . . . .	{ Highest 73.8 Lowest 54.9	{ 69.4 51.8	{ 65.5 51.0	{ 75.5 50.0	{ 69.2 49.1
Solar radiation, max. . .	152.8	142.9	154.8	119.3	—
Terrestrial radiation, min. .	51.0	49.4	47.5	39.9	40.3
Greatest daily rain . . .	.170	.860	.720	.520	.722
Rainy days . . . . .	8	17	11	10	8
Quantity above or below ten years' average . . . . .	-1.220	+1.867	+1.195	-1.090	-.913

stated, private villas may be procured at various elevations above the sea, and in them invalids can be very comfortable. This is unquestionably the best plan if it is possible to carry it out; unfortunately Tenerife has comparatively few of the *quintas* (or *silios* as they are called in the Canaries) which exist in such numbers in Madeira. Then there is Laguna, standing nearly two thousand feet above the sea level, with a mean temperature of  $58.3^{\circ}$  F. in winter, and  $68.4^{\circ}$  F. in summer. It is undoubtedly a healthy and bracing place, although it has almost a monopoly of such clouds and mists as ever darken the sky of the Fortunate Islands.

The real mountain resort in the island, however, is Vilaflor, or, as it was formerly called, Chasna. This is the health resort *par excellence* of the natives of Tenerife. It is on the south side of the island, 4,500 feet above the level of the sea, with pine trees covering the hills above it up to a height of 6,000 feet. It is sheltered by the Canadas and the Peak from the north and north-east wind. It boasts a spring of mineral waters which have a high local reputation in disorders of the digestive organs, almost the only form of disease which is endemic in the Canaries. Here phthisis is said to be unknown, and the rate of mortality from all the ills that flesh is heir to is one of the lowest in the world. Under these circumstances it is not surprising to find an enthusiastic physician of La Villa (Dr. Zerolo, *Orotava-Vilaflor: Estaciones Sanitarias de Tenerife*, p. 24) claiming for Vilaflor the title of 'the first mountain station in the whole universe'!

The other islands of the Canary group are within easy reach, and the excellent inter-insular service of steamers readily enables even invalids to obtain change of air. Las Palmas in the Grand Canary has a singularly bright winter climate owing to the distance of the central heights. The island of Palma is much more wooded than the Grand Canary, and its climate is Atlantic in character. Gomera, another of the islands, is a little paradise which has hitherto been almost entirely neglected.

From this brief sketch it will be seen that in point of climate Tenerife may not unfairly be described as an epitome of all other health resorts, just as its famous botanical garden is a microcosm of the vegetation of the whole earth. There are excellent roads (*carreteras*) over a considerable part of the island, so that all the principal climatic centres, if I may call them so, are readily enough accessible.

One slight drawback connected with the climate of Tenerife must be mentioned, and that is the presence of mosquitos. Though they are neither so numerous nor so ferocious as in many other places, they are a thorn in the flesh of visitors nearly everywhere where the elevation is low. At Santa Cruz they are so abundant that all beds are provided with curtains. Dr. Zerolo indignantly denies that there are any (to speak of) at La Villa; but whilst I was at Puerto one gentleman told me that he saw a few, and another that he had killed ten



before getting into bed. The new establishment, owing to its being at a higher level above the sea than the present 'grand' hotel, will probably be free from this nuisance.

The main features of the climate of Madeira are much the same as those of Tenerife or, to speak more strictly, of Orotava. The mean annual temperature of Madeira is, however, four or five degrees lower, but on the other hand the daily range of variation is on the average about two degrees less. The climate of Madeira is therefore still more equable than that of Tenerife. It is not so dry, the average number of days on which rain falls <sup>4</sup> being about 70, and the annual rainfall 28 or 29. The relative humidity of the atmosphere is from 76 to 79. The sky is more overcast as a rule than in the Canaries, there being a certain amount of cloudiness nearly every day. The two climates during the last winter underwent a certain amount of change in different directions, the Canary Islands having had less sunshine than they generally have, and the weather in Madeira having been abnormally bright. Dr. Grabham greatly prefers the normal cloudiness, and he has observed that certain acute diseases were more prevalent last winter when the sun played on the island without restraint. The vegetation is similar in type in Madeira and Tenerife, though in the latter island it is rather more African in character. The former has the same advantages as Tenerife as regards residence at different heights, except that in the Portuguese island there are no hotels at an elevation of two thousand feet.

Funchal is situated near the coast, but the best hotels and *quintas* are built on the crests of the hills which form the spurs of loftier mountains further in the interior. When the weather becomes too hot in the neighbourhood of Funchal patients can go higher up either to the villas on the Palheiro road, or to those below the level of the Mount, over which a Scotch mist not unfrequently rests. Those who wish for a still higher elevation and can afford to hire a villa may spend the summer in Comachio, which is more than 2,000 feet above the sea; there they will find a delicious English summer climate with apple and pear trees growing abundantly. For those who prefer the sea, Santa Cruz at the east end of the island, and in the summer months Santa Anna on the north side, will be found very pleasant. Personally, in spite of all the dithyrambs of Mr. Hart and the guide-book writers, I prefer the scenery of Madeira to that of the Canaries. There is a want of trees and, generally, of natural beauty in these islands which makes them much less agreeable to the eye than Madeira. On the other hand, Tenerife has greatly the advantage of Madeira in point of roads. There is nothing in the latter island corresponding to the *carretera*. The roads are so steep that ordinary carriages with horses can hardly be used without considerable risk, and the pace is

<sup>4</sup> In these statistics the smallest drizzle is counted.

necessarily very slow. The bullock sleighs (or *carros* as they are called in the island) travel quickly and safely up and down the hills, whilst the hammock affords a very pleasant mode of conveyance. This useful institution has lately been introduced into Tenerife, but the Spaniards have not yet mastered the art of carrying without shaking.

Dr. Grabham, the well-known physician of Madeira, considers that the absence of carriages is an advantage rather than a drawback, as invalids frequently catch cold when out driving, but it is certainly a great inconvenience to other people. Madeira has a great advantage over Tenerife as regards villas, which may be hired by invalids for their sole use; while there are about a hundred and fifty of these near Funchal, there are only some twenty in the Orotava valley. Again, there are six hotels at Madeira, and there will soon be a seventh; they are situated at different levels, and therefore adapted to different cases. There is decidedly more comfort and general convenience in Madeira than in the Canaries, not the least important element in the visitor's happiness in the former being the excellent Portuguese servants who have been trained to English ways from generation to generation for a hundred years. On the other hand, the expense of living is much higher in Madeira than in Tenerife. All ports in the Canary Islands are free, and English goods can be readily introduced. Both Madeira and the Canaries are now almost equally accessible. Tenerife can be reached in five days from Plymouth, but as the steamers now only travel at the rate of about ten knots an hour, I believe the voyage could easily be reduced to three days. Those who object to a long sea passage can go by Spain, Portugal, and Madeira.

It only remains for me to speak of the various complaints for which these climates are suitable, and of the kind of cases to which each of them is, in my own opinion, more particularly beneficial. With reference to the latter point, however, it must be borne in mind that it is impossible to say with certainty what climate will best suit any given case. It is the same with medicines; the *idiosyncrasy* of the patient may cause a drug like opium, or quinine, to have little or no effect, or one altogether different from that which is desired. A climate which acts like a charm on one person may not benefit another in what seems to be precisely the same condition. One can only lay down general rules, which are subject to modification by the circumstances of the case. Lung disease, of course, occupies the foreground in all questions of climatic treatment, and with respect to that I do not know that there is much to choose between Madeira and Tenerife. Both seem to be equally beneficial with precisely the same limitations. No climate can cure a patient in an advanced stage of phthisis whose lungs are riddled with cavities and whose vital power is exhausted by hectic. No patient should ever be sent abroad who is obliged to keep his bed. The whole benefit of a new climate consists in its making an open-air life possible. Doctors,

however, are often unjustly blamed for sending hopeless cases to a health resort when the blame rests altogether with the patient, who thinks, if he can only reach some place of which he has heard or read, he will get well. Some years ago I saw an American gentleman, evidently in a dying state, who had set his heart on going to Davos and would not be turned from his purpose. He reached his destination, but only to die the day after his arrival. When the disease is in an early stage, or when there is only some 'delicacy' of the lungs, a stay at either Madeira or the Canaries for some length of time will in all probability ward off the danger, and perhaps permanently cure the patient. In such cases there is no other place that can be compared to these; and many persons, who would beyond all doubt have died long ago had they stayed at home, have been saved by residence in the Canary Islands or Madeira for three or four years or for longer periods. Several English people have permanently taken up their abode in each of them, and the fiend of 'tubercle' seems to have been completely exorcised. This happy effect is not due, as is sometimes absurdly stated, to the fact that the pure 'balsamic,' 'antiseptic' air kills the minute organisms which are now believed to be concerned in the causation of the disease, but is the result of the general strengthening of the system, which restores to the tissues sufficient vitality to resist the microbes. This building up anew of the constitution is effected by increased use of the lungs, and the only way to secure that is by exercise in the open air. The exercise must, of course, be carefully adapted to the patient's power of endurance. Young invalids often err in this way by wasting their strength under the impression that they acquire stamina thereby. I found, for instance, that some of the patients who had spent the winter at Orotava had climbed the Canadas (a large extinct crater halfway up the Peak), taken long rides, made distant excursions across the island, and even played at tilting. I know several cases in which a serious relapse occurred in consequence of such imprudence. A quiet stroll or sitting in the sun will do good where violent exercise would be simply baneful.

A word of caution is necessary as to the risk involved in the case of a person suffering from advanced disease who goes on a journey, like that to the Canaries, of five days from Plymouth or seven from London in a steamer. The sea-sickness, semi-starvation, and general knocking about may easily rouse the smouldering volcano of chronic disease into activity. Many patients would derive much benefit from the Riviera whom it would not be safe to send to the Canary Islands or to Madeira.

Whilst at Tenerife I saw a good many cases of lung disease in consultation with Dr. George Perez, son of a well-known physician at Orotava, and himself a graduate of the University of London. In most of them there was considerable destruction of tissue in one or both lungs. In all but three of these cases, the reparative process



was very remarkable, and in two of these exceptions great improvement had taken place, but the patients had lost ground again owing to the effects of their own imprudence, or from accidentally taking cold. As all patients coming to Tenerife and leaving it have to pass through Santa Cruz, I thought that a favourable place for making inquiries as to the condition of the visitors at the time of their departure for England. The worst that could be said by a person who had had ample opportunities of seeing every patient who embarked, and who was by no means disposed to be over-friendly to Orotava, was that eight or nine persons had been carried on board.

Orotava with its sunny climate seemed to me to be particularly suitable for eases of consumption still in what is called the 'first stage.' It is also likely to be beneficial to those in the second stage, especially when there is profuse secretion. When there is constant high temperature, especially if there is a tendency to the spitting of blood, Madeira should be selected. Persons in the third stage of consumption should be restrained from going to either of these places or anywhere else; for them emphatically 'There's no place like home.' Tenerife is also beneficial in cases of bronchitis, when there is much secretion; for 'dry' bronchitis Madeira is better. One of these health resorts may, with great advantage, be made to supplement the other according to the variations in the patient's condition or to the development of different phases of his disease. Dr. Grabham tells me he has for years made use of the Canaries as a change from Madeira in eases of chronic disease, chiefly phthisis, when there is general failure of the vital powers, depression, and loss of appetite. The change is almost invariably most beneficial for a time. If the disease appears to be entering on an inflammatory phase, the sufferer should be sent to Madeira till the febrile symptoms subside. I entirely agree with Dr. Grabham that the slow process of recovery from phthisis may be powerfully aided by this alternation of Madeira with the Canaries. Asthmatic patients as a rule do well at Madeira if an elevation of 300 feet is selected; but most eases, if simple in character, find more relief in the Canaries. This disease, however, is so capricious in all its relations that it is quite impossible to say which place will suit any individual case. I saw one child who was cured of asthma after three or four years' residence at Orotava, and one or two other cases in which improvement had taken place. There is no doubt that in certain varieties of kidney disease much benefit is derived from residence either in the Canaries or Madeira, more particularly the latter. This is not yet, I think, sufficiently realised by English physicians. In cases of convalescence after acute or exhausting illness, especially where protection from chill and sudden changes of temperature is desirable, both Madeira and Tenerife can be recommended. Madeira is for this reason likely to be especially useful in convalescence from scarlet fever.

In addition to what may be termed their peculiar function as

health resorts, both Madeira and the Canary Islands have, I think, a great future before them as places of rest where overworked professional men, jaded politicians, and persons suffering from nervous breakdown can recruit their wasted energy. As a playground the Canaries leave little to be desired. Excursions adapted to every organisation can be comfortably made. Excellent Andalusian horses are to be had; and here and there, there is soft ground where healthy persons may enjoy a good canter. There is also a small breed of native horses admirably adapted for climbing up the bridle roads. Comfortable carriages are also to be found both at Orotava and Santa Cruz. Of the restorative power of Tenerife I can speak from experience. I arrived there completely broken down by a winter of unusually hard work, and at the end of a fortnight I was in perfect health.

For invalids the best time to go to the Canaries is about the middle, or, better still, towards the end of October. English people arriving before that time are apt to find the climate oppressive. They can remain at Orotava till June, or if they go first to La Villa and afterwards to Laguna the whole year can be spent most comfortably (as far as climate is concerned) in the island. For those merely suffering from exhaustion or over-tension of the nervous system, I think the spring is the best time. A trip to the Canaries makes an admirable Easter holiday; there are Guanche mummies and undecipherable inscriptions for antiquaries, quaint rites and ceremonies for the curious, and air and sunlight, sea and mountain for everybody.

In conclusion, a word or two may be said on the general subject of climate with reference to its influence on disease. It is a great mistake for a patient to think that he can go to a place which has the reputation of being beneficial to his complaint, and simply absorb health from the atmosphere without any effort on his own part. As Sir James Clark said many years ago, 'The air, or climate, is often regarded by the patient as possessing some specific quality, by virtue of which it directly cures his disease. This erroneous view of the matter not unfrequently proves the bane of the invalid by leading him, in the fulness of his confidence in climate, to neglect other circumstances as essential to his recovery as that in which all his hopes are fixed.' Climate in fact only helps those who help themselves. A visit to a health resort must not be looked upon as an excuse for neglecting necessary precautions or relaxing salutary rules, but rather as an occasion for still more careful living. Not the least beneficial part of the climatic treatment is the enforced freedom from social temptations which at home would lead to imprudent exposure, excitement, and fatigue. Climate in fact cannot cure any disease; it only removes one of the exciting causes of the mischief, and so far leaves Nature a fair field for the exercise of her healing influence.